

What is claimed is:

1. A method comprising:  
enabling a packet protection mechanism based on a value of an adaptable request to send a threshold, wherein the value of the adaptable request is determined according to a collision rate of packets transmitted over a wireless local area network.
2. The method of claim 1 comprising:  
adapting the adaptable threshold based on a collision rate parameter received from a control signal.
3. The method of claim 2, wherein adapting comprises:  
calculating an average collision rate from the received collision rate parameter;  
determining a transmission data rate and a control message packet length; and  
adapting the adaptable threshold based on the average collision rate, the transmission data rate and the control message packet length.
4. The method of claim 1, wherein enabling the packet protection mechanism comprises:  
enabling a request to send\clear to send (RTS\CTS) control mechanism if the length of the packet is below the adaptable threshold.
5. The method of claim 1, wherein enabling the packet protection mechanism comprises:  
enabling a request to send\clear to send (RTS\CTS) control mechanism if the collision rate parameter is to indicate a possible hidden station.
6. The method of claim 5, further comprising:

detecting a hidden station based on reception at a visible station of one control messages without another control message of the request to send\clear to send (RTS\CTS) control mechanism or reception of acknowledgment frames.

7. The method of claim 6, further comprising:  
adding the detected hidden station to a list.
8. The method of claim 7, comprising:  
removing the hidden station from the list when both control messages of the request to send\clear to send (RTS\CTS) control mechanism from the hidden station are received at the visible station.
9. The method of claim 7, comprising:  
disabling the request to send\clear to send (RTS\CTS) control mechanism by adapting the value of an adaptable request to send a threshold if the list is empty.

10. An apparatus comprising:
  - a threshold adapter to enable and/or disable a packet protection mechanism based on a value of an adaptable threshold, wherein the value of the adaptable threshold is determined from a collision rate of packets transmitted over a wireless local area network.
11. The apparatus of claim 10, wherein the threshold adapter is able to adapt the adaptable threshold based on a collision rate parameter received from a control signal.
12. The apparatus of claim 10, comprising:
  - a collision estimator to calculate an average collision rate from the received collision rate parameter.
13. The apparatus of claim 12 wherein the threshold adaptor is able to adapt the adaptable threshold based on the average collision rate, a transmission data rate and a control message packet length.
14. The apparatus of claim 10, wherein the threshold adapter is able to enable a request to send\clear to send (RTS\CTS) control mechanism if the length of the packet is below the adaptable threshold.
15. The apparatus of claim 10, wherein the threshold adapter is able to enable a request to send\clear to send (RTS\CTS) control mechanism if, according to the collision rate parameter, there is a possible hidden station within the wireless local area network.
16. The apparatus of claim 10 comprising:

a hidden node detector to detect a hidden station based on reception at a visible station one control message without another control message of the request to send\clear to send (RTS\CTS) control mechanism; and  
a memory to store the detected hidden station in a list of hidden stations.

17. An apparatus comprising:
  - a dipole antenna to receive a control signal having data of a collision rate of packets transmitted over a wireless local area network; and
  - a threshold adapter to enable and/or disable a packet protection mechanism based on a value of an adaptable threshold, wherein the value of the adaptable threshold is determined from the collision rate.
18. The apparatus of claim 17, wherein the threshold adapter is able to adapt the adaptable threshold based on a collision rate parameter received from a control signal.
19. The apparatus of claim 17, comprising:
  - a collision estimator to calculate an average collision rate from the received collision rate parameter.
20. The apparatus of claim 18, wherein the threshold adaptor is able to adapt the adaptable threshold based on the average collision rate, a transmission data rate and a control message packet length.
21. The apparatus of claim 17, wherein the threshold adapter is able to enable a request to send\clear to send (RTS\CTS) control mechanism if the length of the packet is below the adaptable threshold.
22. The apparatus of claim 17, wherein the threshold adapter is able to enable a request to send\clear to send (RTS\CTS) control mechanism if, according to the collision rate parameter, there is a possible hidden station within the wireless local area network.
23. The apparatus of claim 17 comprising:

a hidden node detector to detect a hidden station based on reception at a visible station one control message without another control message of the request to send\clear to send (RTS\CTS) control mechanism; and

a memory to store the detected hidden station in a list of hidden stations.

24. A wireless communication system comprising:
- a station to transmit and receive a packet over the wireless communication system; and
  - an access point includes a threshold adapter to enable and/or disable a packet protection mechanism based on a value of an adaptable threshold, wherein the value of the adaptable threshold is determined from a collision rate of packets transmitted over the wireless communication system.
25. The wireless communication system of claim 24, wherein the threshold adapter is able to adapt the adaptable threshold based on the collision rate parameter received from a control signal.
26. The wireless communication system of claim 24, wherein the access point comprises:
- a collision estimator to calculate an average collision rate from the received collision rate parameter.
27. The wireless communication system of claim 26, wherein the collision estimator is able to estimate a network load base on the packet time parameter and the collision probability parameter and to estimate the throughput loss parameter based on the network load.
28. The wireless communication system of claim 24 further comprising:
- a hidden node detector to detect a hidden station based on reception at a visible station one control message without another control message of the request to send\clear to send (RTS\CTS) control mechanism; and
  - a memory to store the detected hidden station in a list of hidden stations.

29. An article comprising: a storage medium, having stored thereon instructions, that when executed, result in:

enabling a packet protection mechanism based on a value of an adaptable request to send a threshold, wherein the value of the adaptable request is determined according to a collision rate of packets transmitted over a wireless local area network.

30. The article of claim 29 wherein the instructions when executed, result in:

calculating the probability of collisions based on estimated throughput loss parameter which based on the collisions.

31. The article of claim 29 wherein the instructions when executed, result in:

adapting the adaptable threshold based on a collision rate parameter received from a control signal.

32. The article of claim 29 wherein the instruction when executed, result in:

calculating an average collision rate from the received collision rate parameter;

determining a transmission data rate and a control message packet length; and

adapting the adaptable threshold based on the average collision rate, the transmission data rate and the control message packet length.

33. The article of claim 29 wherein the instruction determining the packet protection mechanism, result in:

enabling a request to send\clear to send (RTS\CTS) control mechanism if the length of the packet is below the adaptable threshold.

34. The article of claim 29 wherein the instruction when executed, result in:

detecting a hidden station base on reception at a visible station of one control messages without another control message of the request to



send\clear to send (RTS\CTS) control mechanism or reception of acknowledgment frames.